

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

#16  
35  
10/009,335

Applicant's or agent's file reference B 13340.3 DB	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FR00/01804	International filing date (day/month/year) 28 June 2000 (28.06.00)	Priority date (day/month/year) 01 July 1999 (01.07.99)
International Patent Classification (IPC) or national classification and IPC G06N 5/04		<b>RECEIVED</b> MAY 17 2002 Technology Center 2100
Applicant COMMISSARIAT A L'ENERGIE ATOMIQUE		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.  
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 5 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 19 January 2001 (19.01.01)	Date of completion of this report 29 May 2001 (29.05.2001)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## I. Basis of the report

1. With regard to the **elements** of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
pages 1-8, 10-34, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages 9, 9bis, 35, filed with the letter of 16 May 2001 (16.05.2001)
- ☒ the claims:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages 1-7, filed with the letter of 16 May 2001 (16.05.2001)
- ☒ the drawings:  
pages 1/12-12/12, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1-7	YES
	Claims		NO
Inventive step (IS)	Claims	1-7	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-7	YES
	Claims		NO

**2. Citations and explanations****1. The following documents are referred to:**

D1: Chu et al.: "First break refraction event picking using fuzzy logic systems", IEEE Transactions on Fuzzy Systems, US, IEEE Inc., New York, Vol. 2, N° 4, 1 November 1994, pages 255-266

D2: EP-A-0 468 229 (HNC Inc.) 29 January 1992.

**2. The present application meets the requirements of EPC Article 33, because the subject matter of Claim 1 is novel and involves an inventive step for the following reasons:**

Claim 1:

D1 describes:

- an artificial intelligence system for classifying events, objects or situations using discriminating signals and parameters derived from models, characterised in that it comprises (see abstract, lines 7-10; and page 257, right-hand column, lines 8-11)
- at least one processing branch including a fuzzy expert system (see page 258, left-hand column, Figure 3) taking a decision on the basis of high-level properties and lower-level discriminating parameters

retrieved from the signals by signal processing procedures (see page 258, right-hand column, lines 17-27; and page 265, left-hand column, lines 30-37).

D1 does not describe that the fuzzy expert system is capable of explaining its decision to the user by means of rules sorted according to their order of applicability.

D1 describes only the fact that the fuzzy expert system uses rules to simplify the decision-taking process (see page 265, left-hand column, lines 43-45).

D2 (see Figure 1 and column 14, lines 35-44) shows a neuronal network system with expert capabilities for locating the most relevant entry data. The influence of each entry variable on the decision is measured using an iterative method.

For that reason, D2 likewise does not disclose that the fuzzy expert system is capable of explaining its decision to the user by means of rules sorted according to their order of applicability.

Consequently, the subject matter of Claim 1 involves an inventive step and therefore satisfies the requirements of PCT Article 33(3).